

R E M A R K S

Claims 1-3, 7, 8, 11, 12, 14-16 are pending in this application. Claims 4-6, 9-10 and 13 have been canceled. Claim 16 has been allowed. The remaining claims stand rejected under 35 U.S.C. 102(b) as anticipated or in the alternative under 35 U.S.C. 103(a) as obvious over von Bonin et al.

The Examiner is respectfully requested to take into account a new Declaration that is submitted herewith. The Declaration is made by Katsutomo Ohzeki, one of the inventors of the present invention.

The experiments reported in the second Ohzeki Declaration are directed to a test to determine whether the von Bonin et al. disclosure of the use of starch in an aqueous medium is evidence of anticipation or obviousness of the present invention in reference to treatment of expandable graphite. The results of the testing are inconclusive as far as the use of starch in a small amount in aqueous solutions, since the starch that was used according to the disclosure of von Bonin et al. did not result in a usable aqueous solution.

The courtesy of a personal interview with Applicants' representative on October 21, 2003 is gratefully acknowledged. The claims as amended have been limited to the use of a non-graphitizable starch as set forth in line 3 of claim 1. All the

claims that remain rejected over the art of record are now limited to graphite material that is non-graphitizable and also wherein the surface active material coating the graphite material for use in forming a negative electrode of a lithium iron secondary cell has been shown to be in a critical amount of 0.01 to 10% by weight based upon the weight of graphite material. This has been established by the first Declaration of K. Ohzeki, dated October 24, 2002 and which was submitted as an attachment to the Reply under 37 C.F.R. 1.111 of November 14, 2002. (see, for example, the first Ohzeki Declaration at pages 3 and 4). It is believed that the claims are now limited to the demonstrated unexpected results set forth in the Declarations of K. Ohzeki, which are now part of the record of the present application.

In view of the foregoing amendments and remarks, reconsideration of the rejection of the remaining claims is respectfully urged and favorable action and allowance is respectfully solicited.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a two (2) month extension of time for filing a reply in connection with the present application, and the required fee of \$420.00 is attached hereto.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Edward H. Valance (Reg. No. 19,896) at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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BY 

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Attachment(s)



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IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: OHZEKI, et al. Conf.: 6799
Appl. No.: 09/254,316 Group: 1754
Filed: March 4, 1999 Examiner: HENDRICKSON, S.
For: GRAPHITE POWDER FOR NEGATIVE ELECTRODE
OF LITHIUM ION SECONDARY CELL AND
METHOD OF PRODUCING THE SAME

SECOND DECLARATION OF KATSUTOMO OHZEKI

Commissioner for Patents
Washington, DC 20231

Sir:

1. The undersigned Declarant is the inventor of Application Serial No. 09/254,316 filed on March 4, 1999.

2. Declarant is a graduate of Tokai University, graduate School of Science, Course of Chemistry with a degree in Master of Chemistry granted in 1990. Declarant has been employed by Hitachi Powdered Metals Co., Ltd. for 12 years and is engaged in research and development of electrodes for secondary cells, including lithium ion cells for batteries.

3. Declarant is familiar with the prosecution of Application Serial No. 09/254,316 filed on March 4, 1999, and the officially cited prior art, U.S. Patent 5,288,429 of W. von Bonin et al. (hereinafter known as "von Bonin et al.").

4. Declarant has caused certain experiments to be carried out under his direction as described hereinbelow:

Experiment: Reproduction of von Bonin's Example 1

A predetermined quantity (2.5 parts) of starch was mixed with 50 parts of pure water.

The Examiner states that, in column 2 and in Example 1 of von Bonin et al., graphite is treated with a small amount of starch. However, the reference at column 2, lines 48-55 reads: "It is an essential feature of the present invention that a liquid is added to the expandable graphite and a moist preparation form of the expandable graphite is thus obtained. Preferred liquids for the production of the moist preparation form of the expandable graphite are water or water-containing liquid mixtures. Water-containing liquid mixtures may be, for example, aqueous solutions..."

Such a mixture may contain starches or other various kinds of substances. However, the quantity of starch present is indicated only in Example 1 (column 5, line 35), which is not indicative of the substantial operation of the present invention. In addition, the starch itself used in the cited reference is insoluble into water, so that the 5% aqueous solution of starch itself does not exist, which is different from the solutions of starch derivatives

employed in the present invention as referred to in Example 1 on page 11 and in Claims 1 and 15 of the present application.

The resultant product of the cited reference is expandable graphite which is quite different from the present invention which is a graphite material to form a negative electrode of a lithium ion secondary cell. Therefore, the practical features of the present invention are entirely different from those of von Bonin et al. and this reference does not anticipate the presently claimed invention.

5. Results and Conclusions

The experiment in column 5, lines 15-45 of von Bonin et al. could not be reproduced because the starch was not soluble in water. The actual starch used in the example of von Bonin et al. was not specified by von Bonin et al. For the comparison, a common variety of corn starch readily available was used in the attempted dissolving of starch in water.

6. DECLARANT hereby states that all statements made herein of his own knowledge, and information and belief, are believed to be true; and, further, that these statements were made with the knowledge that willful, false statements, and the like, so

made are punishable by fine or imprisonment or both under
Section 1001 of Title 18 of the United States Code, and that
such willful, false statements may jeopardize the validity of
the application, any patent issuing thereon or any patent to
which this verified statement is direct.

Date: Nov. 21, 2003

Katsutomo Ohzeki, Declarant
Katsutomo Ohzeki